

## SEQUENCE LISTING

<110> INSTITUT PASTEUR  
 INSERM (Institut National de la Santé et de la Recherche Médicale)  
 CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE  
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 COURTOIS, GILLES  
 ISRAEL, ALAIN  
 VERON, MICHEL  
 TRINCARD, FRANCOIS  
 YAMAOKA, SHOJI

<120> SELECTIVE INHIBITION OF NF-KappaB ACTIVATION BY PEPTIDES DESIGNED  
 TO DISRUPT NEMO OLIGOMERIZATION

<150> US 60/530,418

<151> 2003-12-18

<150> US 60/505,161

<151> 2003-09-24

<160> 39

<170> PatentIn version 3.3

<210> 1

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<212> PRT

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Cys Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys  
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Lys

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Ala Glu Glu Ala Leu Val Ala Lys Gln Glu Leu Ile Asp Lys Leu Lys  
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Glu Glu Ala Glu Gln His Lys Ile Val  
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Glu Ala Glu Gln His Lys Ile Val

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Arg His Ala Arg Glu Lys Leu Val Glu Lys Lys Glu Tyr Leu Gln Glu  
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Gln Leu Glu Gln Leu Gln Arg Glu Phe Asn Lys Leu  
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Leu Glu Gln Leu Gln Arg Glu Phe Asn Lys Leu  
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Lys Leu Lys Ala Gln Ala Asp Ile Tyr Lys Ala Asp Phe Gln Ala Glu  
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Arg His Ala Arg Glu Lys Leu Val Glu Lys Lys Glu Tyr Ser Gln Glu  
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His Ala Arg Glu Lys Leu Val Glu Lys Lys Glu Tyr Ser Gln Glu Gln  
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Glu Leu Leu Ser Lys Asn Tyr His Leu Glu Asn Glu Val Ala Arg Leu  
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          20          25          30
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```
Leu Gly Lys Pro Ala Met Leu His Leu Pro Ser Glu Gln Gly Thr Pro
          35          40          45
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Glu Thr Leu Gln Arg Cys Leu Glu Glu Asn Gln Glu Leu Arg Asp Ala
          50          55          60
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Ile Arg Gln Ser Asn Gln Met Leu Arg Glu Arg Cys Glu Glu Leu Leu
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His Phe Gln Val Ser Gln Arg Glu Glu Lys Glu Phe Leu Met Cys Lys
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 Asp Leu Arg Ser Gln Arg Glu Gln Ala Leu Lys Glu Leu Glu Gln Leu  
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 Lys Lys Cys Gln Gln Gln Met Ala Glu Asp Lys Ala Ser Val Lys Ala  
 130 135 140  
 Gln Val Thr Ser Leu Leu Gly Glu Leu Gln Glu Ser Gln Ser Arg Leu  
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 Glu Ala Ala Thr Lys Asp Arg Gln Ala Leu Glu Gly Arg Ile Arg Ala  
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 Val Ser Glu Gln Val Arg Gln Leu Glu Ser Glu Arg Glu Val Leu Gln  
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 Gln Gln His Ser Val Gln Val Asp Gln Leu Arg Met Gln Asn Gln Ser  
 195 200 205  
 Val Glu Ala Ala Leu Arg Met Glu Arg Gln Ala Ala Ser Glu Glu Lys  
 210 215 220  
 Arg Lys Leu Ala Gln Leu Gln Ala Ala Tyr His Gln Leu Phe Gln Asp  
 225 230 235 240  
 Tyr Asp Ser His Ile Lys Ser Ser Lys Gly Met Gln Leu Glu Asp Leu  
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 Arg Gln Gln Leu Gln Gln Ala Glu Glu Ala Leu Val Ala Lys Gln Glu  
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 Leu Ile Asp Lys Leu Lys Glu Glu Ala Glu Gln His Lys Ile Val Met  
 275 280 285  
 Glu Thr Val Pro Val Leu Lys Ala Gln Ala Asp Ile Tyr Lys Ala Asp  
 290 295 300  
 Phe Gln Ala Glu Arg His Ala Arg Glu Lys Leu Val Glu Lys Lys Glu  
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 Tyr Leu Gln Glu Gln Leu Glu Gln Leu Gln Arg Glu Phe Asn Lys Leu  
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 Lys Val Gly Cys His Glu Ser Ala Arg Ile Glu Asp Met Arg Lys Arg  
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 His Val Glu Thr Pro Gln Pro Pro Leu Leu Pro Ala Pro Ala His His  
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Ser Phe His Leu Ala Leu Ser Asn Gln Arg Arg Ser Pro Pro Glu Glu  
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Lys Ser Lys Gly Met Gln Leu Glu Asp Leu Lys Gln Gln Leu Gln Gln  
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Ala Glu Glu Ala Leu Val Ala Lys Gln Glu Val Ile Asp Lys Leu Lys  
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Glu Glu Ala Glu Gln His Lys Ile Val  
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<210> 14  
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Ser Lys Gly Met Gln Leu Glu Asp Leu Lys Gln Gln Leu Gln Gln Ala  
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Glu Glu Ala Leu Val Ala Lys Gln Glu Val Ile Asp Lys Leu Lys Glu  
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Glu Ala Glu Gln His Lys Ile Val  
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 1 5 10 15

Lys Leu Lys Ala Gln Ala Asp Ile Tyr Lys Ala Asp Phe Gln Ala Glu  
 20 25 30

Arg Gln Ala Arg Glu Lys Leu Ala Glu Lys Lys Glu Leu Leu Gln Glu  
 35 40 45

Gln Leu Glu Gln Leu Gln Arg Glu Tyr Ser Lys Leu  
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&lt;210&gt; 16

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Leu Lys Ala Gln Ala Asp Ile Tyr Lys Ala Asp Phe Gln Ala Glu Arg  
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Gln Ala Arg Glu Lys Leu Ala Glu Lys Lys Glu Leu Leu Gln Glu Gln  
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Leu Glu Gln Leu Gln Arg Glu Tyr Ser Lys Leu  
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&lt;210&gt; 17

&lt;211&gt; 2035

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 17

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 20 25 30

Leu Gly Lys Pro Ala Met Leu His Leu Pro Ser Glu Gln Gly Ala Pro  
 35 40 45

Glu Thr Leu Gln Arg Cys Leu Glu Glu Asn Gln Glu Leu Arg Asp Ala

50

55

60

Ile Arg Gln Ser Asn Gln Ile Leu Arg Glu Arg Cys Glu Glu Leu Leu  
65 70 75 80

His Phe Gln Ala Ser Gln Arg Glu Glu Lys Glu Phe Leu Met Cys Lys  
85 90 95

Phe Gln Glu Ala Arg Lys Leu Val Glu Arg Leu Gly Leu Glu Lys Leu  
100 105 110

Asp Leu Lys Arg Gln Lys Glu Gln Ala Leu Arg Glu Val Glu His Leu  
115 120 125

Lys Arg Cys Gln Gln Gln Met Ala Glu Asp Lys Ala Ser Val Lys Ala  
130 135 140

Gln Val Thr Ser Leu Leu Gly Glu Leu Gln Glu Ser Gln Ser Arg Leu  
145 150 155 160

Glu Ala Ala Thr Lys Glu Cys Gln Ala Leu Glu Gly Arg Ala Arg Ala  
165 170 175

Ala Ser Glu Gln Ala Arg Gln Leu Glu Ser Glu Arg Glu Ala Leu Gln  
180 185 190

Gln Gln His Ser Val Gln Val Asp Gln Leu Arg Met Gln Gly Gln Ser  
195 200 205

Val Glu Ala Ala Leu Arg Met Glu Arg Gln Ala Ala Ser Glu Glu Lys  
210 215 220

Arg Lys Leu Ala Gln Leu Gln Val Ala Tyr His Gln Leu Phe Gln Glu  
225 230 235 240

Tyr Asp Asn His Ile Lys Ser Ser Val Val Gly Ser Glu Arg Lys Arg  
245 250 255

Gly Met Gln Leu Glu Asp Leu Lys Gln Gln Leu Gln Gln Ala Glu Glu  
260 265 270

Ala Leu Val Ala Lys Gln Glu Val Ile Asp Lys Leu Lys Glu Glu Ala  
275 280 285

Glu Gln His Lys Ile Val Met Glu Thr Val Pro Val Leu Lys Ala Gln  
290 295 300

Ala Asp Ile Tyr Lys Ala Asp Phe Gln Ala Glu Arg Gln Ala Arg Glu  
305 310 315 320

Lys Leu Ala Glu Lys Lys Glu Leu Leu Gln Glu Gln Leu Glu Gln Leu  
Page 10

325

330

335

Gln Arg Glu Tyr Ser Lys Leu Lys Ala Ser Cys Gln Glu Ser Ala Arg  
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Ile Glu Asp Met Arg Lys Arg His Val Glu Val Ser Gln Ala Pro Leu  
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Pro Pro Ala Pro Ala Tyr Leu Ser Ser Pro Leu Ala Leu Pro Ser Gln  
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Arg Arg Ser Pro Pro Glu Glu Pro Pro Asp Phe Cys Cys Pro Lys Cys  
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Glu Tyr Leu  
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Met Glu Thr Val Pro Val Leu Lys Ala Gln Ala Asp Ile Tyr Lys Ala  
                   20                                  25                                  30

Asp Phe Gln Ala Glu Arg Gln Ala Arg Glu Lys Leu Ala Glu Lys Lys  
                   35                                  40                                  45

Glu Leu Leu  
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<210> 21  
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<213> Bos taurus

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Glu Val Ile Asp Lys Leu Lys Glu Glu Ala Glu Gln His Lys Ile Val  
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Met Glu Thr Val Pro Val Leu Lys Ala Gln Ala Asp Ile Tyr Lys Ala  
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Asp Phe Gln Ala Glu Arg Gln Ala Arg Glu Lys Leu Ala Glu Lys Lys  
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Glu Phe Leu  
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<400> 22

Glu Leu Ile Lys Lys Met Gln Leu Asp Ile Asn Glu Leu Lys Ala Arg  
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Asp Ile Gln Lys Gln Glu Val Ile Lys Gly Leu Gln Ile Gln Asn Asp  
20 25 30

Ile Tyr Arg Arg Asp Phe Glu Met Glu Arg Ala Asp Arg Glu Lys Asn  
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Ala Gly Glu Lys Asp Gln Tyr  
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<210> 23  
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<400> 23

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Leu Glu Thr Met Ala Val Leu Arg Ala Gln Met Glu Val Tyr Cys Ser  
20 25 30

Asp Phe His Ala Glu Arg Ala Ala Arg Glu Lys Ile His Glu Glu Lys  
35 40 45

Glu Gln Leu  
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<210> 24  
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<400> 24

Leu Gln Met Asp Glu Met Lys Gln Thr Ile Ala Lys Gln Glu Glu Asp  
1 5 10 15

Leu Glu Thr Met Thr Ile Leu Arg Ala Gln Met Glu Val Tyr Cys Ser  
20 25 30

Asp Phe His Ala Glu Arg Ala Ala Arg Glu Lys Ile His Glu Glu Lys  
35 40 45

Glu Gln Leu  
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<210> 25  
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Arg Glu Arg Met Asn Glu Glu Lys Glu Glu Leu  
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<210> 26  
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<400> 26

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1 5 10 15

Ala Leu Leu Arg Lys Gln Glu Leu Val Thr Gln Asn Glu Leu Leu Lys  
20 25 30

Gln Gln Val Lys Ile Phe Glu Glu Asp Phe Gln Arg Glu Arg Ser Asp  
Page 13

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40

45

Arg Glu Arg Met Asn Glu Glu Lys Glu Glu Leu  
 50 55

<210> 27  
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<400> 27

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 1 5 10 15

Leu Glu Arg Val Gln Met Leu Glu Gln Gln Ile Leu Ala Tyr Lys Asp  
 20 25 30

Asp Phe Lys Ser Glu Arg Ala Asp Arg Glu Arg Ala His Ser Arg Ile  
 35 40 45

Gln Glu Leu  
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<210> 28  
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<400> 28

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 1 5 10 15

Leu Glu Arg Val Gln Met Leu Glu Gln Gln Ile Leu Ala Tyr Lys Asp  
 20 25 30

Asp Phe Met Ser Glu Arg Ala Asp Arg Glu Arg Ala Gln Ser Arg Ile  
 35 40 45

Gln Glu Leu  
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<210> 29  
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Ser Phe Ser Glu Asp Cys Leu Arg Lys Ser Arg Val Glu Phe Cys His  
 1 5 10 15

Glu Glu Met Arg Thr Glu Met Glu Val Leu Lys Gln Gln Val Gln Ile  
 20 25 30

Tyr Glu Glu Asp Phe Lys Lys Glu Arg Ser Asp Arg Glu Arg Leu Asn  
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Gln Glu Lys Glu Glu Leu  
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His Ala Arg Glu Lys  
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Cys Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys  
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Lys Leu Lys Ala Gln Ala Asp Ile Tyr Lys Ala Arg Phe Gln Ala Glu  
 20 25 30

Arg His Ala Arg Glu Lys  
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<210> 32  
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Cys Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Leu Lys Ala Gln  
 1 5 10 15

Ala Asp Ile Tyr Lys Ala Arg Phe Gln Ala Glu Arg His Ala Arg Glu  
 20 25 30

Lys

<210> 33  
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<220>  
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Cys Arg Arg Arg Arg Arg Arg Arg Leu Lys Ala Gln Ala Asp Ile Tyr  
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Lys Ala Arg Phe Gln Ala Glu Arg His Ala Arg Glu Lys  
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Ile Tyr Lys Ala Arg Phe Gln Ala Glu Arg His Ala Arg Glu Lys  
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Leu Lys Ala Gln Ala Asp Ile Tyr Lys Ala Arg Phe Gln Ala Glu Arg  
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Gln Ala Arg Glu Lys  
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Cys Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys  
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Lys Leu Lys Ala Gln Ala Asp Ile Tyr Lys Ala Arg Phe Gln Ala Glu  
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Arg Gln Ala Arg Glu Lys  
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<400> 37

Cys Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Leu Lys Ala Gln  
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Ala Asp Ile Tyr Lys Ala Arg Phe Gln Ala Glu Arg Gln Ala Arg Glu  
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Lys

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Cys Arg Arg Arg Arg Arg Arg Arg Arg Leu Lys Ala Gln Ala Asp Ile Tyr  
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Lys Ala Arg Phe Gln Ala Glu Arg Gln Ala Arg Glu Lys  
20 25

<210> 39  
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<400> 39

Cys Arg Arg Arg Arg Arg Arg Arg Arg Arg Leu Lys Ala Gln Ala Asp  
1 5 10 15

Ile Tyr Lys Ala Arg Phe Gln Ala Glu Arg Gln Ala Arg Glu Lys  
20 25 30